REMARKS

Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks. Claims 1-10 were pending prior to the Office Action. Claims 11-39 have been have been added through this Reply. Therefore, claims 1-39 are pending. Claims 1, 9, 11, and 29 are independent.

DRAWINGS

The drawings are objected to for minor informalities. *See Office Action, page 2, item 4.* Proposed drawing changes and corrected formal drawings are submitted herewith as noted above to address this issue. Applicant respectfully requests that the objection to the drawings be withdrawn.

§ 112, 2ND PARAGRAPH REJECTION

Claim 10 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Claim 10 has been amended to address the antecedent basis issue. Applicant respectfully request that the Section 112, second paragraph rejection of claims 10 be withdrawn.

§ 103 REJECTION - STANTON, SAMPSELL

Claims 1 and 3-10 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Stanton (USPN 5,917,558) in view of Sampsell (USPN 5,233,385). *See Office Action, page 2, items 5 and 6.* Applicant respectfully traverses.

The following important observations are made regarding the relied upon references. Stanton is directed towards a method for controlling a color projection video system. More specifically, Stanton describes a projection video system that includes a lamp 12 with all light from the lamp 12 guided to a color wheel 16. The color wheel 16 separates the light into one color component at a time, and then the separated component is then guided to the light valve 24. The light valve 24 is controlled to modulate the individual color components.

It is noted that Stanton only describes a color wheel with three color regions - red, blue, and green. **At best, this is the situation described in the present specification regarding the conventional system as depicted in Figure 9. Stanton's devices suffers from at least the same problems.** Namely, such a system, while perhaps satisfactory for displaying high

saturation colors, is not satisfactory for displaying images requiring high luminance.

The Examiner purports to modify Stanton's device with the device as described in Sampsell. Sampsell is directed toward system and method to enhance brightness of an image. More specifically, Sampsell teaches that a color wheel may be used for temporal filtering of colors. In Sampsell, the color wheel includes a transparent region 16 in addition to the red, green, and blue regions 10, 12, and 14, respectively. *See Sampsell, Figures 1B and 1C.*

The inclusion of the transparent region 16 allows a portion of the white light to be preserved so that overall brightness may be raised. *See Sampsell, column 1, lines 67-68.* However, any inclusion of a transparent portion 16 necessarily corresponds to a reduction of saturation of colors. **At best, this is exactly the problem that exists with the conventional system as depicted in Figure 10 of the present specification and suffers from at least the same problems.** Namely, such a system, while perhaps satisfactory for images requiring high luminance, is not satisfactory for displaying images requiring high saturation.

Thus modifying Stanton with the teachings of Sampsell amounts to nothing more than modifying the conventional system as depicted in Figure 9 with the conventional system as depicted in Figure 10. Clearly, such combination cannot teach or suggest all the features of the claims.

More specifically, for a Section 103 rejection to be proper, a *prima facie* case of obviousness must be established. *See M.P.E.P. 2142.* One requirement to establish *prima facie case* of obviousness is that the prior art references, when combined, must teach or suggest all claim limitations. *See M.P.E.P. 2142; M.P.E.P. 706.02(j).* Thus, if the cited references fail to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

In this instance, independent claim 1 recites, in part, "means for guiding the light having passed through the sequential color selecting means and said white light to said spatial light modulator." In the Office Action, the Examiner asserts that the light valve drive 26 of Stanton is equivalent to the means for guiding light as claimed. This assertion fails.

Stanton clearly states, "the incoming beam 22 of colored light is modulated in accordance with the video information

supplied to light valve 24 **by a light valve drive 26.**" *Emphasis added; See Stanton, column 2, lines 63-63.* In other words, the **light valve drive merely supplies modulation control signals** to the light valve 24. **There is no light guiding function served by the light valve drive 36.**

Also Stanton and Sampsell cannot teach or suggest the feature of "means for adjusting the temporal average intensity of the white light" as the Examiner asserted. In the Office Action, the Examiner asserts Sampsell device also meets this requirement.

However, it is clear the amount of white light is **fixed** and is determined by the size of the transparent region 16 of the color wheel. For example, the transparent region 10 may be 10% of the color wheel as described. *See Sampsell, Figure 1B.* As an alternative, the size may be 25%. *See Sampsell, Figure 1C.*

Regardless, the size of the transparent region 16 is purely a design decision and is fixed once the design decision is made. Simply put, there is no adjusting of the white light that can take place within the device itself when it is in operation.

For at least the above stated reasons, independent claim 1 is distinguishable over Stanton and Sampsell. Claims 3-8 depend

from independent claim 1 directly or indirectly. Therefore, these claims dependent claims are over Stanton and Sampsell for at least the reasons stated with respect to claim 1.

The dependent claims are also distinguishable on their own merits. For example, claim 3 recites, in part, "means for generating the white light includes means for combining **light reflected** at the sequential color selecting means." In the Office Action, the Examiner asserts that the color wheel as shown in Figure 1B of Sampsell meets this requirement.

However, this assertion clearly fails. There is simply no discussion whatsoever regarding the use of any light reflected from the color wheel. Indeed the suggestion is quite the opposite. Namely, **Sampson strongly suggests that only the light having passed through the color wheel is utilized**, including the white light passing through the transparent region 16 of the color wheel.

Also as an example, claim 4 recites, in part, "means for adjusting the temporal average intensity of the white light adjusts the light reflected at the sequential color selecting means." In the Office Action, the Examiner asserts Sampsell device also meets this requirement.

However, it is clear that Sampsell cannot be relied upon to teach or suggest "reflected light" at all as demonstrated above. Also in Sampsell, the amount of white light is **fixed** and is determined by the size of the transparent region of the color wheel as clearly demonstrated above.

As another example, claim 8 recites, in part, "a controller for adjusting the temporal average intensity depending on the contents of an image signal representing the image to be projected." In the Office Action, the Examiner asserts that Stanton's light valve drive 26 meets this requirement.

However, in both Stanton and Sampson, the amount of individual color components and white light impinging the light valve 24 is fixed and determined by the size of the respective color regions. There is simply no discussion adjusting of the color components based on the image content in Stanton.

Applicant recognizes that Stanton does discuss adjusting the intensity of the lamp 12 itself, but only in the context of compensating for the deterioration of the respective color filters of the color wheel. *See Stanton, column 3, lines 7-10.*

The combination of Stanton and Sampsell fails to teach or suggest all features of claims 9 and 10 as well. For example,

independent claim 9 recites, in part, "means for guiding the light having passed through the sequential color selecting means and light reflected at said sequential color selecting means to said spatial light modulator. As demonstrated clearly above, neither Stanton nor Sampsell may be relied upon to teach or suggest any reflected light at all.

It then naturally follows that neither Stanton nor Sampsell may be relied upon to teach or suggest the feature of "adjusting means which reduce the temporal average intensity of the reflected light" as recited in claim 9 as well.

Further, Stanton and Sampsell cannot teach or suggest "said spatial light modulator spatially modulates **simultaneously** the light having passed through the sequential color selecting means and the reflected light with its temporal average intensity having been adjusted, to generate image light." *Emphasis added.*

It is noted that the color wheel of either Stanton or Sampsell can only pass one of the red, green, blue, or white component at a given time. Neither Stanton nor Sampsell depicts a system where more than one color component is utilized where the color wheel is involved. Thus, regardless of whether or not Stanton's device is modified according to the teachings of

Sampsell, there can be no simultaneous modulation of light having passed through the sequential color selecting means **and** the reflected light.

For at least the above stated reasons, independent claim 9 is distinguishable over Stanton and Sampsell. Claims 10 depends from independent claim 9. Therefore, claim 10 is also distinguishable over Stanton and Sampsell for at least the reasons stated with respect to claim 10.

Claim 10 is distinguishable on its own merit as well. Claim 10 recites, in part, "the rate of reduction by the adjusting means is **variable.**" *Emphasis added.* It has been clearly demonstrated above that the systems in Stanton and Sampsell are both **fixed.** There is no variability discussed.

Applicant respectfully requests that the rejection of claims 1 and 3-10 based on Stanton and Sampsell be withdrawn.

§ 103 REJECTION - STANTON, SAMPSELL, BOS

Claim 2 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Stanton in view of Sampsell and further in view of Bos et al (USPN 5,387,920, hereinafter

"Bos"). *See Office Action, page 7, item 7.* Applicant respectfully traverses.

It is noted that claim 2 depends from independent claim 1 and that claim 1 has been demonstrated to be distinguishable over Stanton and Sampsell. Bos has not been, and indeed cannot be, relied upon to correct for the deficiencies of Stanton and Sampsell. Therefore, independent claim 1 is distinguishable over Stanton, Sampsell, and Bos.

Due to the dependency thereon as well as on its own merits, claim 2 is also distinguishable over Stanton, Sampsell, and Bos.

Applicant respectfully requests that the rejection of claim 2 based on Stanton, Sampsell, and Bos be withdrawn.

NEW CLAIMS

Claims 11-39 have been added through this reply. All new claims are believed to be distinguishable over the cited references, individually or in any combination. Applicant respectfully requests that the claims 11-39 be allowed.

CONCLUSION

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Hyung Sohn (Reg. No. 44,346), to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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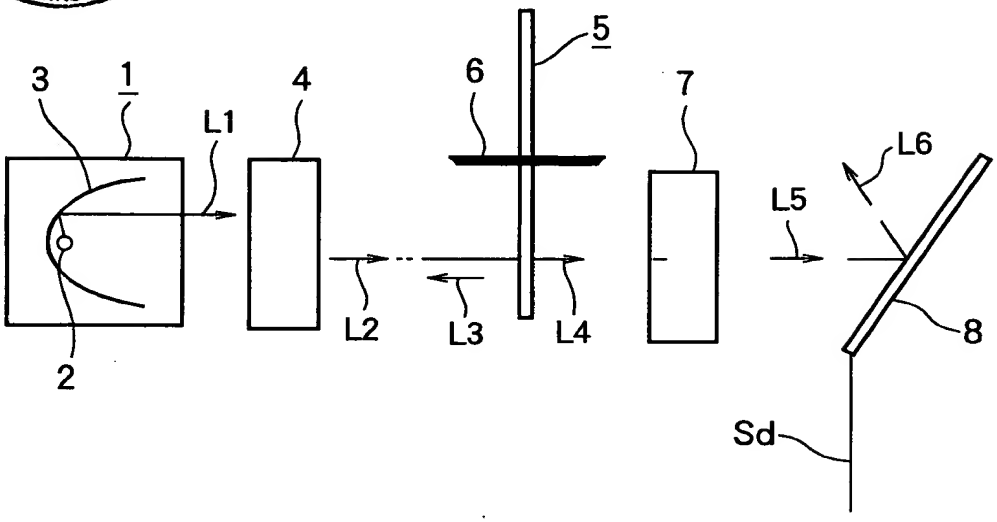
Attachment(s): Proposed drawing corrections
Formal drawings
New abstract

FIG.8

CONVENTIONAL ART



Approved
TT 6/14/04

FIG.9

CONVENTIONAL ART

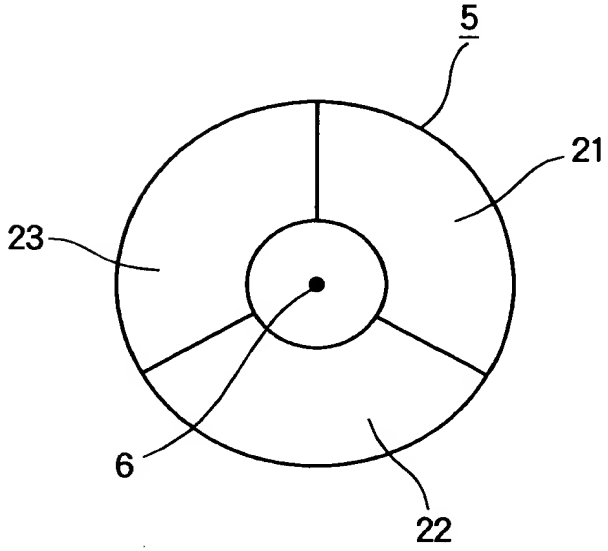


FIG.10
CONVENTIONAL ART

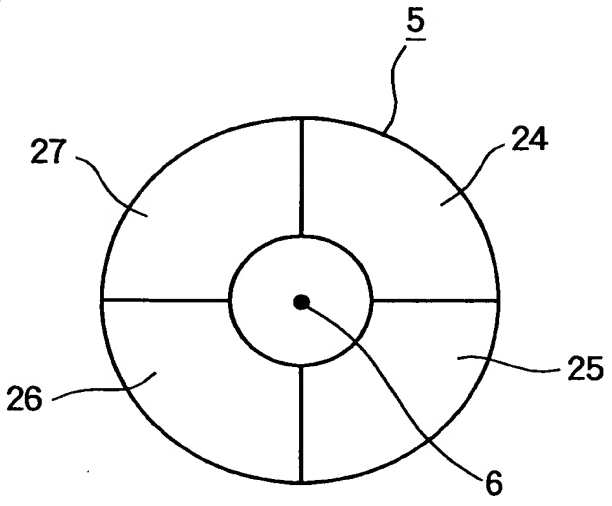


FIG.11
CONVENTIONAL ART

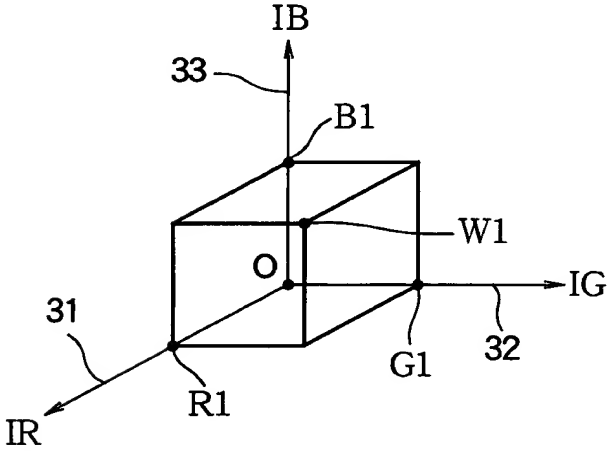
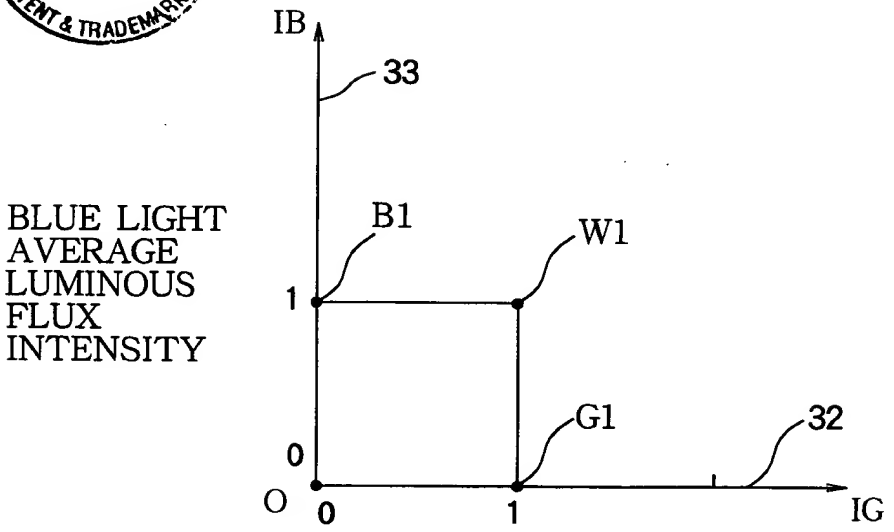


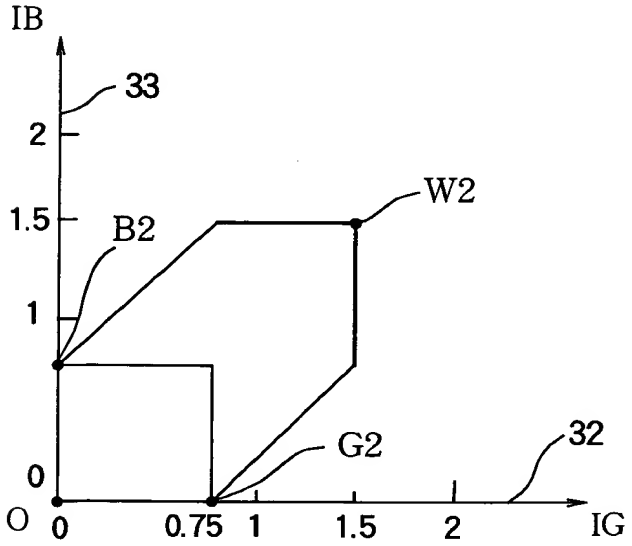
FIG. 12
CONVENTIONAL ART



BLUE LIGHT AVERAGE LUMINOUS FLUX INTENSITY

GREEN LIGHT AVERAGE LUMINOUS FLUX INTENSITY

FIG. 13
CONVENTIONAL ART



BLUE LIGHT AVERAGE LUMINOUS FLUX INTENSITY

GREEN LIGHT AVERAGE LUMINOUS FLUX INTENSITY